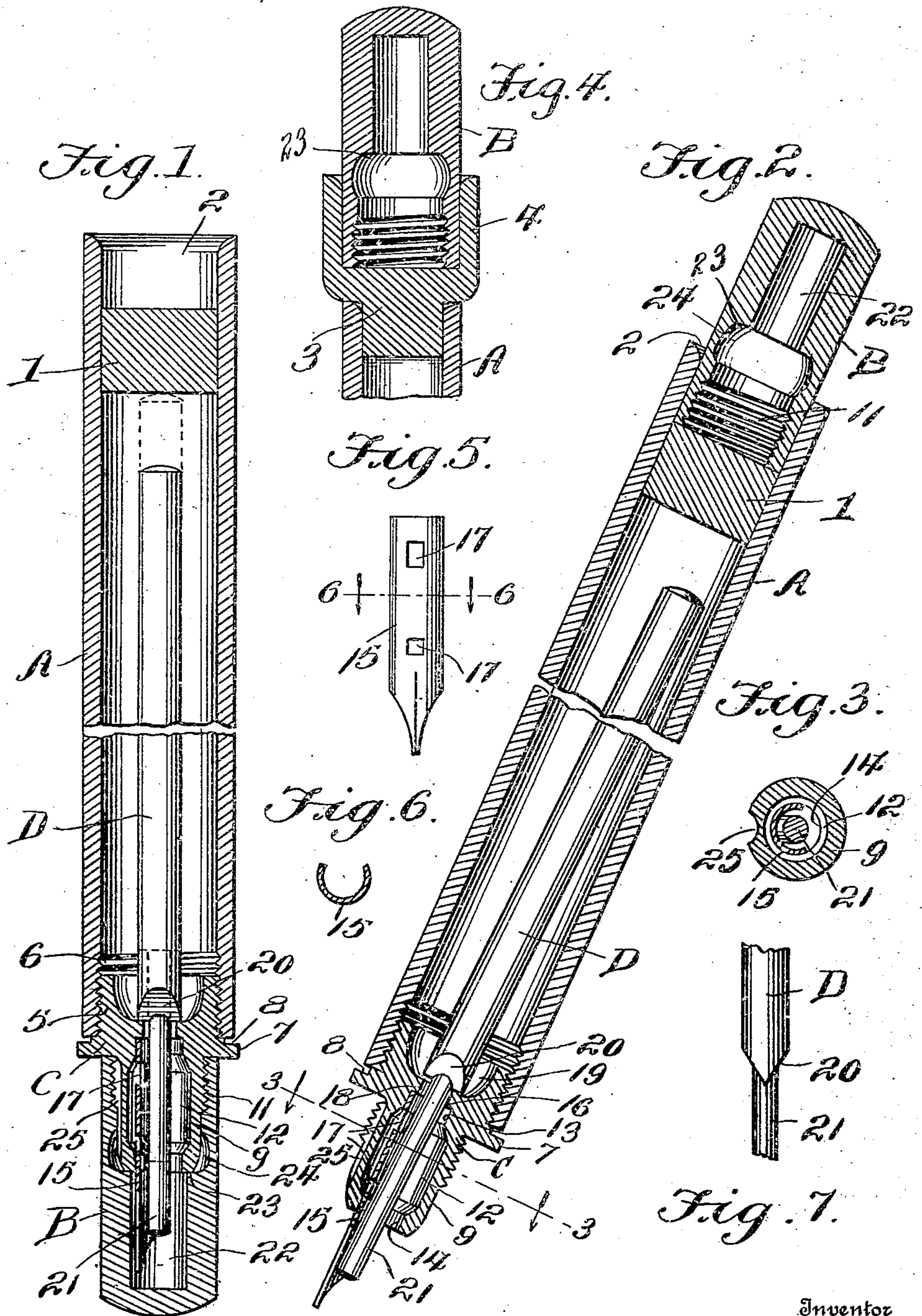


E. E. MORLAN.
 FOUNTAIN PEN.
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955,675.

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Witnesses
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UNITED STATES PATENT OFFICE.

ERNEST E. MORLAN, OF COLUMBIA, MISSOURI.

FOUNTAIN-PEN.

955,675.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, ERNEST E. MORLAN, a citizen of the United States, residing at Columbia, in the county of Boone and State of Missouri, have invented new and useful Improvements in Fountain-Pens, of which the following is a specification.

This invention relates to a fountain pen of that type provided with an ink-holding cap whereby the tip of the pen, when not in use, will be always immersed in ink so that it is available at all times for writing without failure of the ink to flow, which is a common fault with many fountain pens in common use.

The invention has for one of its objects to improve and simplify the construction and operation of devices of this character so as to be comparatively simple and inexpensive to manufacture, reliable and efficient in use, and so designed as to insure a steady supply of ink at the nib or pen point.

Another object of the invention is the provision of a fountain pen including a novel form of nib-holding plug, in combination with a feeding device for insuring the supply of ink to the tip of the nib or pen.

A further object of the invention is to provide an ink-tight cap for covering the nib when not in use and equipped with means for receiving the excess of ink from the cap when the latter is applied.

With these objects in view and others, as will appear as the description proceeds, the invention comprises the various novel features of construction and arrangement of parts which will be more fully described hereinafter and set forth with particularity in the claims appended hereto.

In the accompanying drawing, which illustrates one embodiment of the invention, Figure 1 is a central longitudinal section of the fountain pen drawn on a somewhat larger scale than will be employed in actual practice. Fig. 2 is a similar view showing the pen as adapted for use. Fig. 3 is a transverse section on line 3—3, Fig. 2. Fig. 4 is a sectional view of a modified form of socket piece for receiving the cap in using the fountain pen for writing. Fig. 5 is a view of the nib or pen point. Fig. 6 is a transverse section on line 6—6, Fig. 5. Fig. 7 is a side view of a portion of the plunger or ink-feeding device.

Similar reference characters are employed

to designate corresponding parts throughout the views.

Referring to the drawing, A designates a hard rubber or other barrel of suitable length and bore and closed at its upper end by a plug 1 which may be set into the barrel as shown in Fig. 1 to provide a socket 2 or which may be constructed as shown in Fig. 4, to consist of a plug 3 formed with an enlarged socket piece 4. Either socket 2 or 4 is of such diameter as to receive the nib-protecting cap B when the fountain pen is used for writing, the feed of the cap in the socket being such as to frictionally hold the cap in place.

Arranged in the lower end of the barrel A is a nib-holding plug C which is provided with an external thread 5 for engaging the internal thread 6 of the barrel, whereby the plug is held in place. On the plug C is an annular flange 7 which projects beyond the barrel so as to afford a convenient grip when applying or removing the plug and also to serve as a guard for preventing ink from creeping back to the barrel and soiling the fingers of the writer. The upper surface of the flange 7 is recessed at 8 so as to cooperate with the end of the barrel to form an annular groove which is adapted to retain any ink which works out of the joint between the plug and barrel when placing the plug in the latter, and by this means the ink will be prevented from working up on the barrel and soiling the fingers. The plug is provided with a nipple or tubular portion 9 that projects centrally therefrom and which is provided with an external thread 10 to engage the internal threads 11 of the cap B for the purpose of effectively holding the cap in place and for additional purposes hereinafter to be described. The nipple portion 9 of the plug is provided with a cylindrical chamber or cavity 12 which is contracted at both ends to form cylindrical seats 13 and 14 of the same diameter for receiving the nib or pen point 15, which latter is approximately one-eighth of an inch in diameter.

As shown in Fig. 6, the nib 15 is of a cross-section greater than a semi-circle so as to snugly fit the circular seats 13 and 14 and be steadily held in place without vibration or yielding under the bearing pressures applied to the nib in writing. The frictional grip of the nib on the seat, however, is such

as to permit the pen to be readily removed when desired. The nib 15, which is preferably constructed of any cheap non-corrosive metal, is arranged with its inner end bearing against an annular shoulder 16 which limits the inward movement of the pen. It will be observed that that portion of the nib within the chamber 12 will be exposed on both sides to ink so that a ready supply of ink to the tip will be insured, and the nib may be provided with openings 17 to allow ink to flow into the hollow of the nib from the opposite side thereof. The chamber 12 communicates with the barrel of the fountain pen through a short passage or port 18 which is of slightly smaller diameter than the nib and the inner end of the plug C is cupped at 19 to make the passage or port 18 of the desired length.

Arranged in the barrel is a loosely mounted plunger or rod D which has its lower end beveled from opposite sides, as indicated at 20, so as to offer no opposition to the flow of ink from the barrel to the chamber 12 through the port 18, and on the lower end of the follower or rod is a straight stem 21 which extends entirely through and projects from the chamber 12 so as to assist in feeding ink to the nib of the pen. The feed stem or element 21 is arranged concentrically within the nib when the fountain pen is in vertical position and is of circular cross section so that any side of the stem can be presented to the pen to feed ink thereto with equal efficiency. The stem is of such length as to terminate about one-eighth of an inch short of the tip of the pen point or nib so as not to rest on the paper when writing and yet be in such a position as to supply ink as close to the tip of the nib as possible. As the stem passes through the port 18 it must be of such diameter as to provide sufficient space for the ink to flow therethrough, and by varying the diameter of the stem or opening or even the length of the port 18, the fountain pen can be adapted for inks of different specific viscosity.

When the fountain pen is used in writing, the rod or plunger D tilts to one side on the upper edge of the port 18 as a fulcrum so that thereby the lower end of the feed stem 21 will bear against the under surface of the nib. By this arrangement, a capillary attraction is produced between the rod and nib with the result that a steady supply of ink to the tip of the pen point or nib will be maintained. The chamber 12 constitutes an auxiliary reservoir that will contain a quantity of ink which is always available to supply the nib, and by reason of this, the fountain pen can be used in a more or less horizontal position, as when writing on a vertical or upright surface. As the seats for the nib are circular and the stem 21 is of circular cross section, the nib can be inserted

in the plug C in any position around the axis thereof to render the pen useful. This is an advantage in that any unskilled person can remove a worn-out pen and substitute a new one without the necessity for fine adjustment, as is essential with some pens now in use. The rod or plunger D is of less length than the barrel so that it can have a limited longitudinal movement upon inverting the fountain pen so as to prevent the nib from becoming gummed with ink and to readily wet the nib when dry from disuse, by moving the stem of the plunger over the nib to furnish ink thereto. Another advantage in having the plunger movable longitudinally, is that the stem 21 can be forced inwardly to allow the nib to be gripped for the purpose of removal.

The nib-protecting cap B is provided with a bore 22 of slightly larger diameter than the nib and of such depth as to prevent the tip of the nib from striking the bottom of the bore when the cap is in place. The cap will contain a drop or two of ink so that the nib will be always immersed therein when the fountain pen is not in use, and since the bore of the cap is comparatively small, this ink will not run out when the cap is inverted and plugged into the socket 2 of the barrel. The upper end of the cap is enlarged to receive the nipple 9 and in the cap is an annular seat 23 against which the end of the nipple, which is accurately finished, tightly bears when the cap is screwed home. Above the seat 23 the cap has an internal swell 24 to provide an annular chamber or cavity around the extremity of the nipple 9 for the purpose of receiving the excess of ink which might be displaced from the bore 22 by the nib and extremity of the stem 21. One side of the nipple has a longitudinal groove 25 which provides a vent for the air and surplus ink as the cap is placed on the nipple.

Having thus described the invention, what I claim is:—

1. In a fountain pen, the combination of a barrel, a plug mounted therein and having an annular flange projecting beyond the barrel, there being a groove formed between the flange and the end of the barrel, a chambered nipple on the plug, a pen arranged in the chamber of the nipple, and an ink-feeding device movably mounted in the plug for supplying ink to the hollow side of the nib.

2. In a fountain pen, the combination of a barrel, a hollow nipple at one end and communicating with the barrel, annular seats arranged in the nipple, a nib engaging the seats and of circular cross section for bearing on the said seats, a shoulder in the nipple against which the inner end of the nib bears, said nib having its inner and outer surfaces exposed to ink in the hollow of the

nipple, an ink-feeding element arranged at the concave side of the nib to supply ink to the tip of the latter.

3. A fountain pen comprising a barrel, a
5 plug therein provided with a port, a nipple having its chamber communicating with the barrel through the port, a nib arranged in the chamber of the nipple, a rod loosely mounted in the barrel for longitudinal and
10 tilting movement, and a stem connected with the rod and adapted to engage the nib adjacent the tip of the latter for conducting ink thereto.

4. In a fountain pen, the combination of a
15 barrel, a plug secured to one end thereof and having a port, a nipple on the plug provided

with a chamber contracted at its ends to form annular shoulders, a nib extending longitudinally of the chamber and projecting out of the same and of greater cross- 20 section than a semi-circle and engaging the said seats, a stem extending longitudinally of the nib and disposed within the hollow thereof, and means for mounting the stem to tilt toward the nib for conducting ink from 25 the said port to the tip of the nib.

In testimony whereof I affix my signature in presence of two witnesses.

ERNEST E. MORLAN.

Witnesses:

E. W. CHAMPION,

W. A. SHOW.